

CRT

Shut-off damper, Ductwork Leakage Class 4



QUICK FACTS

- Tight-closing shut-off damper
- Ductwork Leakage Class 4
- Motorised regulation (standard)
- Manual control through knob (accessory)
- Quick connection enables simple access for cleaning (accessory)

Technical description

Design

Circular commissioning damper consisting of a duct section with a damper and duct connections fitted with a rubber seal ring. The CRT has as standard provision for motorised regulation.

The damper duct has an external actuator self for simple installation of an actuator.

Inside there is a solid blade with rubber gasket, Ductwork leakage Class 4 to SS-EN 1751 and VVS AMA 98 standard.

The motorised regulation requires an actuating torque specified in the dimensions and weights table on page 5.

As standard, the supporting shelves are 80 mm high to be flush with the outer surface of any possible duct insulation.

Max. permissible ambient temperature: 60°C.

Tightness Classification according to EN 1751 and VVS AMA Pressure Class A with 1000 Pa as the highest pressure difference over damper blade in closed position. Tightness class C on the housing and tightness class 4 for closed damper.

Materials and finish

The entire damper is made of galvanised sheet steel.

Customizing

The damper can be made of other materials, such as stainless or epoxy-coated sheet steel.

Contact your nearest sales office for information.

Accessories

Actuator:

Sauter ASM115SK005, ASM124SK002, 24 V AC, standard actuators depending on size.

Other actuators must be ordered; see the actuator selection table on page 5.

Wiring diagrams can be found in the relevant MIS instructions (Installation – Commissioning - Maintenance) available from www.swegon.com.

Knob:

CRTT-1 for manual control.

Quick connection:

FSR. Clamp with quick-acting lock.

Installation

Insert the damper into the connecting duct and fix it in position with blind rivets or by means of an FSR clamp. See Figure 1.

Commissioning

The damper has no measurement function of its own. Turn the damper blade at the desired position and lock it.

Maintenance

Clean the damper whenever needed by means of a vacuum-cleaner and brush nozzle or by wiping surfaces with a cloth.

Environment

The Building Materials Declaration is available from www.swegon.com.

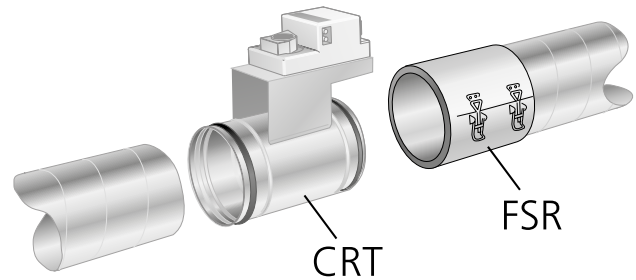


Figure 1. Installation.

Sizing

Sound power level

Diagrams for the various sizes show the total generated sound power ($L_{w_{tot}}$ dB), as a function of the airflow and pressure drop across the damper. By correcting $L_{w_{tot}}$ with the correction factors from Table 1, the sound power level for each octave band ($L_w = L_{w_{tot}} + K_{ok}$) can be obtained.

Acoustic data

Sound power level

Correction factor, K_{ok}

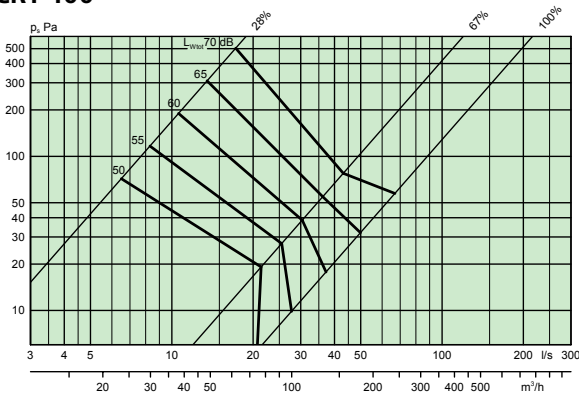
| Size | Mid-frequency (Octave band) Hz | | | | | | | |
|--------|--------------------------------|-----|-----|-----|------|------|------|------|
| | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| 100 | 0 | -4 | -9 | -18 | -20 | -28 | -37 | -42 |
| 125 | 1 | -4 | -10 | -18 | -20 | -28 | -36 | -42 |
| 160 | 1 | -5 | -9 | -17 | -19 | -24 | -33 | -40 |
| 200 | 1 | -4 | -10 | -17 | -18 | -23 | -31 | -38 |
| 250 | 0 | -5 | -8 | -13 | -17 | -20 | -28 | -36 |
| 315 | 0 | -5 | -8 | -14 | -18 | -22 | -31 | -37 |
| 400 | 1 | -4 | -11 | -13 | -17 | -20 | -30 | -36 |
| 500 | 1 | -6 | -7 | -10 | -13 | -19 | -26 | -34 |
| 630 | 0 | -6 | -8 | -8 | -11 | -17 | -24 | -31 |
| Tol. ± | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |

Sizing diagram

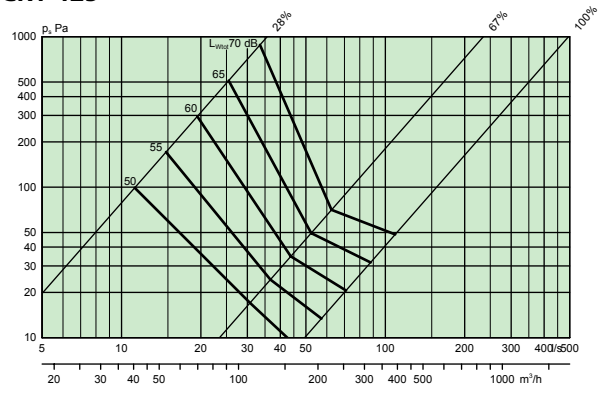
Airflow – Pressure drop – Sound level

- The diagrams should not be used for commissioning.
- The diagrams show pressure and flow lines at various damper angles.

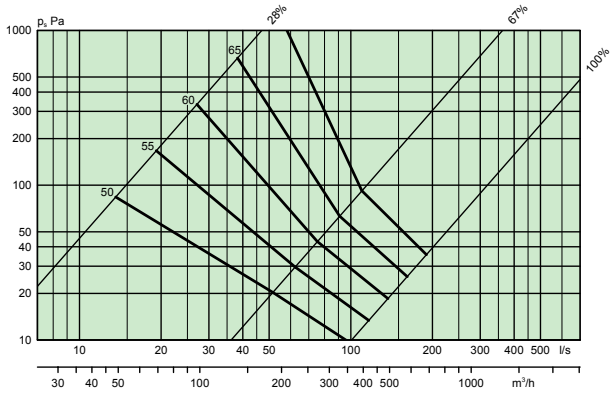
CRT 100



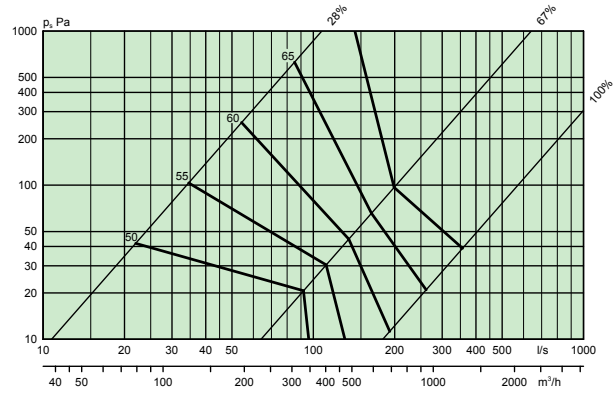
CRT 125



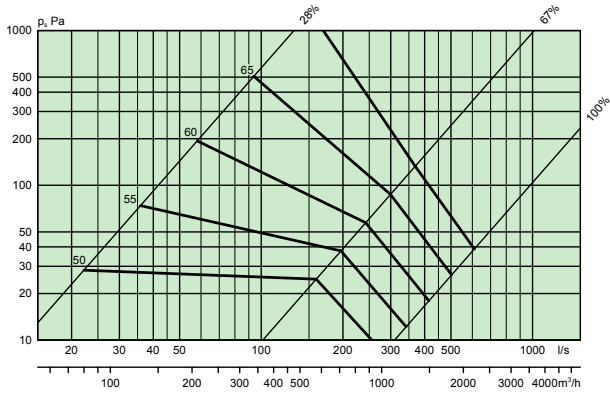
CRT 160



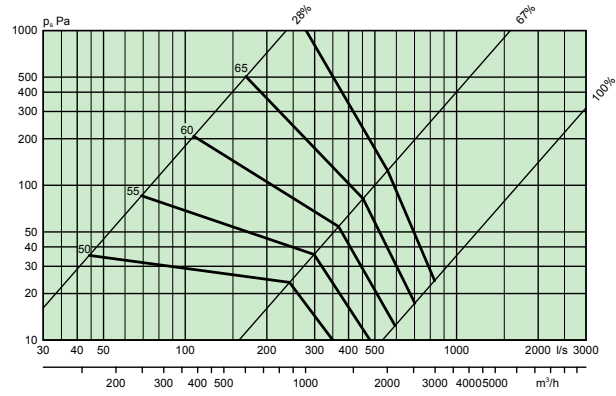
CRT 200



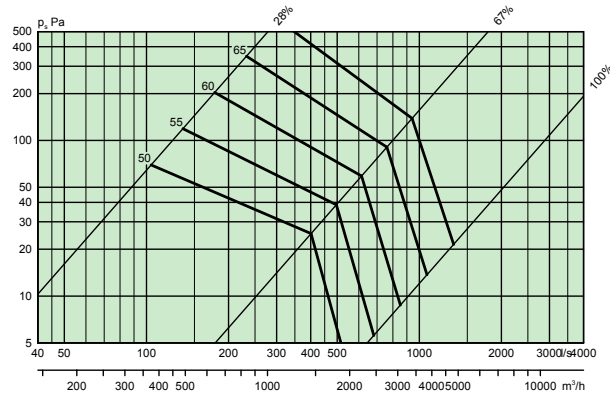
CRT 250



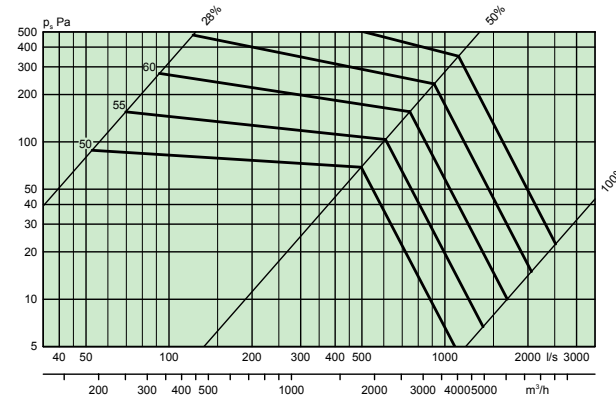
CRT 315



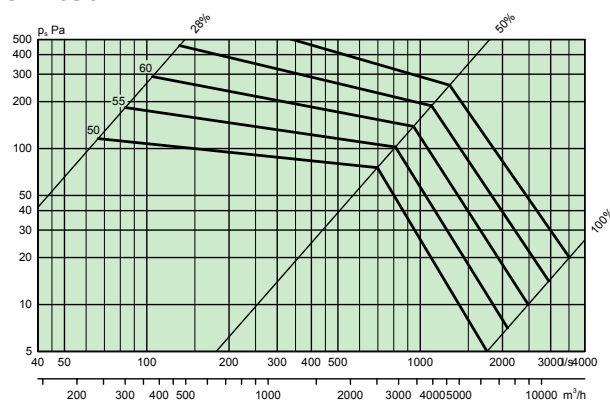
CRT 400



CRT 500



CRT 630



Dimensions and Weights

| Size ØD (mm) | Dimensions (mm) | | Weight (Kg) | Torque ^{*)} (Nm) |
|-----------------|-----------------|----|-------------|---------------------------|
| | A | H | | |
| 100 | 210 | 70 | 0.7 | <3 |
| 125 | 210 | 70 | 0.8 | <3 |
| 160 | 210 | 75 | 0.9 | <3 |
| 200 | 210 | 75 | 1.0 | 4 |
| 250 | 210 | 75 | 1.2 | 5 |
| 315 | 210 | 75 | 1.5 | 6 |
| 400 | 255 | 80 | 2.6 | 8 |
| 500 | 255 | 80 | 4.2 | 12 |
| 630 | 255 | 80 | 6.0 | 15 |

*) The torque moment refers to the recommended force necessary for secure control.

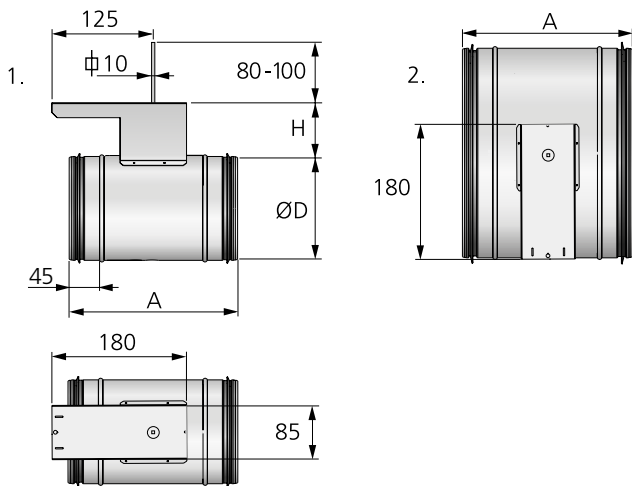


Figure 2. Dimensions (mm), CRT.
1. CRT-(100-400)-4
2. CRT-(500-630)-4

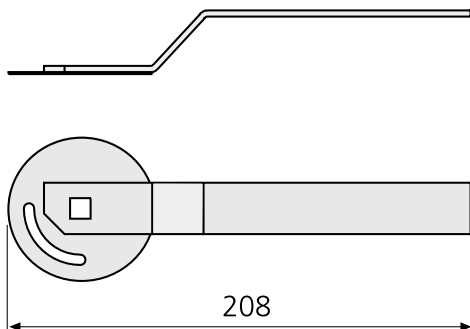


Figure 3. Dimensions (mm), CRTT-1 knob.

Actuator tables

- Actuators: Sauter 24 V AC, ASM115SK005 and ASM124SK002 are standard and kept in stock.
- All other actuators are order items.

2 or 3 point regulation – 24 V AC

| Size | Torque | Designation | |
|---------|--------|-------------|--------|
| | | Sauter | Belimo |
| 100-250 | 5 Nm | ASM115SK005 | LM24A |
| 315-400 | 10 Nm | ASM115SK005 | NM24A |
| 500-630 | 15 Nm | ASM124SK002 | SM24A |

2 or 3 point regulation – 230 V AC

| Size | Torque | Designation | |
|---------|--------|-------------|--------|
| | | Sauter | Belimo |
| 100-250 | 5 Nm | ASM115K003 | LM230A |
| 315-400 | 10 Nm | ASM115K003 | NM230A |
| 500-630 | 15 Nm | - | SM230A |

0-10 V stepless/modulating regulation – 24 V AC

| Size | Torque | Designation | |
|---------|--------|-------------|----------|
| | | Sauter | Belimo |
| 100-250 | 5 Nm | ASM115SK005 | LM24A-SR |
| 315-400 | 10 Nm | ASM115SK005 | NM24A-SR |
| 500-630 | 15 Nm | ASM124SK002 | SM24A-SR |

Electrical data

Actuators – Supply voltage 24 V AC

| Make / Model | Ambient temp. | Power Consumption |
|--------------------|---------------|-------------------|
| Sauter ASM115SK005 | -20...+55°C | 8.7 VA |
| Sauter ASM124SK002 | -20...+55°C | 4.4 VA |
| Belimo LM24A / -SR | -30...+55°C | 2.0 VA |
| Belimo NM24A / -SR | -30...+55°C | 3.5 VA |
| Belimo SM24A / -SR | -30...+55°C | 4.0 VA |

Actuators – Supply voltage 230 V AC

| Make / Model | Ambient temp. | Power Consumption |
|-------------------|---------------|-------------------|
| Sauter ASM115K003 | -20...+55°C | 4.0 VA |
| Belimo LM230A | -30...+55°C | 4.0 VA |
| Belimo NM230A | -30...+55°C | 6.0 VA |
| Belimo SM230A | -30...+55°C | 6.5 VA |

Ordering key

Product

Tight shut-off damper, Class 4 CRT c -aaa -b

Version:

Dimension:

100, 125, 160, 200, 250, 315, 400, 500, 630

Control version:

2 = Mounted actuator (incl. standard actuator)

4 = With provision for installing a actuator

Accessories

If a non-standard actuator is to be fitted, the actuator designation must be specified in plain text.

N.B: The type of actuator varies with the size.

See actuator selection on page 5.

Knob CRTT-1

Quick connection FSR c -aaa

Version:

Size: Nominal duct size

Specification text

Swegon's type CRT circular shut-off damper with the following functions:

- Ductwork leakage Class 4, to SS-EN 1751 and VVS AMA 12
- Solid damper blade with rubber gasket
- Non-fouling design
- Factory-fitted actuator

Size: CRTc - aaa - b xx items